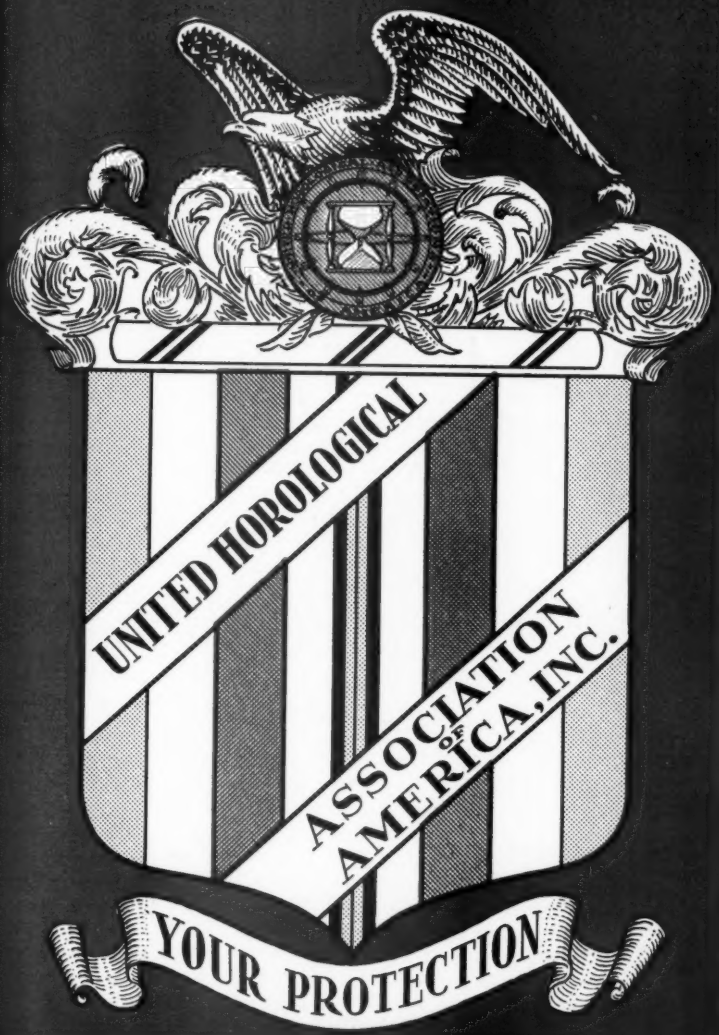
The American Horologist

OFFICIAL NATIONAL PUBLICATION



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THE AMERICAN HOROLOGIST

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Worth $12.75

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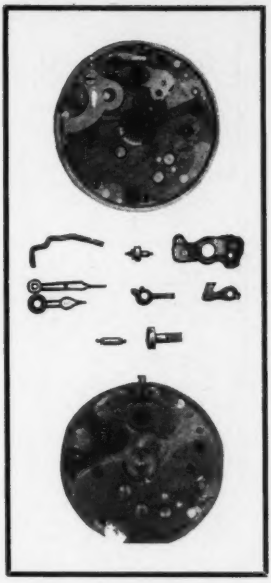

	Quantity
Balance Staff O.S.	1
Balance Staff N.S.	1
Stems	2
Click Springs	12
Setting Lever	1
Set Lever Screw	1
Balance Jewel	1
Hour Hands	3
Minute Hands	3
Clicks	2
Cap Jewels	2
Center Wheel & Pin	1
Minute Wheels	2
Ratchet Wheels	2
Rollers	2
Crown Wheels	2
Winding Pinions	2
Cannon Pinions	2
Center Wheels	1
Center Pinion	1
Escape Wheel & Pin	1
Main Wheel	1
Fourth Wheel & Pin	1
Third Wheel & Pin	2
Setting Wheel	1
Barrel Shells	3
Barrel Arbor	2
Yokes	2
Inter. Set Wheels	3
Hairspring Stud Screws	4
Plate Screws	6
Ratchet Bridge Screws	2
Winding Bridge Screws	2
Case Screws	5
Yoke Screws	8
Hairspring Studs	3
Dial Screws	4
Barrel Bridge Screws	3
Hour Wheel	1
Regulator	1
Setting Bridge	2
Escape Wheel	2
Escape Pinion	2
Winding Bridge	1
Barrel Bridges	1
Train Bridges	4

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Report of Horological Meeting, Chicago, April 29

The first general meeting for watchmakers interested in the UNITED HOROLOGICAL ASSOCIATION OF AMERICA was held on Friday night April 29th in the Palmer House.

This meeting was sponsored by the Chicago Retail Jewelers Guild in cooperation with the West Side Retail Jewelers Association.

A private dinner was given for Mr. Hagans, National Secretary of the U. H. A. of A. and for Mr. Joe Schwartz at 6:30 P. M.

At 8 P. M. Mr. Mortensen secretary of the Illinois Retail Jewelers Association announced that the dinner guests better get into the main meeting room soon if they expected to get a seat.

The committee on arrangements were very much gratified by the fine turn out and there was only standing room left when the meeting was called to order by Carl H. Ander President of the Chicago Retail Jewelers Guild.

The meeting was opened with the statement that if watch making was to be maintained as a profession something must be done to establish ethical standards.

He stated that the only answer to the prayer for help and mercy was to work together.

Now it happens that the UNITED HOROLOGICAL ASSOCIATION OF AMERICA is having its National Convention in Boston and Mr. O. R. Hagans is making his trip to this gathering of watchmakers through several towns along the way and he is giving talks on the association work as he stops.

That is why the meeting was called in Chicago.

Mr. Miller, President of the West Side Retail Jewelers Association was introduced and Mr. Henry T. Mortensen was introduced and announced the Jewelers Convention in Elgin, Illinois, May 9th and 10th.

We were glad to have with us W. H. Samelius who is one of the most ardent supporters of the Horological work.

After these preliminaries Mr. Hagans was introduced.

(Continued on Page 20)

Gathering at Chicago Meeting

4th National Annual Convention Concluded

The 4th National Convention of the U. H. A. of A. ended with triumphant success.

The newly elected officers for the ensuing year are as follows: President:, Thomas J. Fagan; Vice-President, B. W. Heald, Milwaukee, Wis.; Treasurer, Ernst Wetteroth, Kansas City, Mo.; Executive Board members for 3 year term, Harold Sabro, Portland, Ore.; E. Seibel, Bridgeport, Conn.

Resolutions passed:

RESOLUTION I—"The use of the national insigna by sustaining and patron members." This makes it possible for sustaining and patron members to use the national insigna in their letterheads, advertisements and so forth.

RESOLUTION II—"Pertaining to dues." The acceptance of members the last two months of each year and credited to them for the ensuing year, the purpose being not to penalize these men who pay for membership during the later months of any calendar year.

RESOLUTION III—"Change in men's identification cards." To add to the rear of the present membership cards the means of identification in the event of accident or illness.

RESOLUTION IV—"Student Member Guilds." This resolution causes an amendment to the national by-laws to cover the Student Member Guilds. The complete text of this addition as well as other amendments to the by-laws will appear in an early edition of THE AMERICAN HOROLOGIST.

RESOLUTION VI—"Voting Amendment." This resolution clarifies the long standing controversy relative to proxy voting and makes it definitely understood that no proxy voting by representations outside of the respective state involved will be tolerated.

RESOLUTION VIII—"Unethical Advertising in Trade Journals." This resolution was referred to our legal division for their opinion and recommendations.

RESOLUTION XX—"Guild and State Charters." Guild and state charters will be issued at an early date and proper laws governing same will be drafted and presented at an early date.

RESOLUTION XXII—"Financing National Conventions." This resolution was turned over to the by-laws committee to draft suitable laws and regulations covering same which will be presented to the members and officers at an early date.

Banquet at the Convention Was a Huge Success

There were door prizes donated by various manufacturers and jobbers throughout America. One of the outstanding and interesting parts of this drawing was as follows. Mr. W. H. Samelius of the Elgin National Watch Co., was about the fifth name drawn from the wheel. He drew a Gruen watch. Mr. Rothheart of the Hamilton Watch Co. was the next man and he drew a Waltham watch. Mr. Bill Marshall of the Waltham Watch Co. was the next number drawn and he won a Hamilton watch. All in all it looked like a frame-up and when the time came it was suggested that these various factory representatives exchange their watches so as to hold the watch manufactured by their company. But for some reason known to those individuals, they refrained from doing so, feeling perhaps they were better off with the prizes as received.

Special Notice

To all members, subscribers, and supporters we beg to announce that should your correspondence to national headquarters not have received the proper attention or response during the last month and a half, we ask you to bear with us until the fore part of July at which time we will reopen our offices and attend to all requests which have been received during the secretary's absence from the national headquarters.

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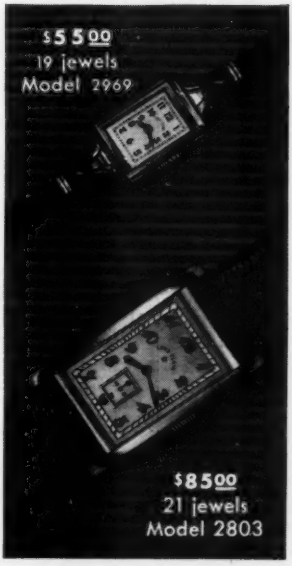
These watches dramatically reaffirm America's watchmaking leadership. Parts are accurate to 1/10,000 of an inch. Dials are of sterling silver. Train wheels are plated with 24 k. gold. Plates are protected with rhodium, costing four times as much as platinum. And every watch is star-timed by ELGIN'S own famous observatory.

Quality jewelers are showing these newest ELGINS now. Lord Elgins from $50; Lady Elgins from $47.50.



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U. H. A. A. Local Committee, Fourth National Convention, Boston, Mass.

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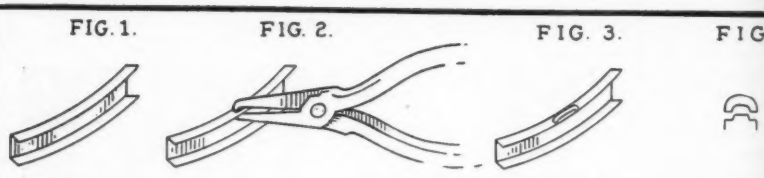

FIG. 1. Shows section of band for wristwatch before using pliers.

FIG. 2. Shows pliers in place on band.

FIG. 3. Shows what pliers does to make band secure.

FIG. 4. Shows what happens to band after pliers is used.

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Evolution of the Winding and Setting of Watches

By JACOB L. HAGELOW

A WATCH may be divided into five separate and distinct units, namely: The power unit, which consists of the mainspring and barrel, and which delivers the power to the train. The transmission unit, composed of the center, third, fourth and escape wheels, transmits the power to the escapement. The control unit, or the pallet, lever, balance, hairspring and regulator, controls the speed at which the power is released. The indicating unit, or dial train, consists of the minute wheel, cannon pinion, and hour wheel, and to the latter two, of course, the hands are attached. The winding and setting unit contains all stem wind wheels and setting apparatus, and is used to wind and set the watch. Many improvements, of course, have been made on all five of these units, but the winding and setting mechanisms have certainly undergone many varied and drastic changes.

The first portable timepiece made by Peter Heinlien in about the year 1550 was the first timepiece to be driven by a mainspring. This mainspring contained in a drum was wound by means of a key. It had but one hand, showing the hour, and this was set by forcing the hand to the correct time. The socket of this hand was a friction fit on the hour wheel tube, and in this way it was an easy matter to move the hand either forwards or backwards. This style of winding and setting was employed for a good many years until we had watches that were wound from the front and also set from the front by means of a key, the end of the cannon pinion being squared off to accommodate the winding key.

As time marched on we had another improvement in the winding and setting of watches. These watches were stem wound, but to set the hands it was still necessary to use a key. The winding stem also did not have a clutch as is employed in the watches of today, and consequently there was no backwind for convenience. These watches were called semi-stem wind watches.

As it was quite an inconvenience to carry a key at all times to keep a watch wound, it was only natural that any system or way to eliminate same would certainly have been well received. In our next watches this inconvenience was eliminated and we did get watches that were both wound and set with the stem. The setting was accomplished by means of a small pin which projected through the edge of the case. This pin in turn would depress the clutch lever, throwing the clutch out of connection with the winding wheel; the lower end of the clutch, having teeth cut in it, would mesh into the inter-setting wheel and this wheel would mesh into the cannon pinion.

We also had watches that were wound by turning the bezel or bezel wound watches. Still another arrangement used in winding watches was by pulling a button head from the top of the pendant. This button was attached to a chain, and this chain was wrapped around the ratchet wheel. The wheel also had a return spring inside to take up the slack in the chain. To set these watches, a key projected out from the back of the movement. This winding and setting arrangement is still extensively used today, especially in auto clocks.

Then came the stem wind and lever set watch. The setting of the hands was executed by means of pulling a small lever out from under the dial. A short lever or cam attached to the lever proper would disengage the winding and throw the mechanism into setting position. This lever set arrangement is required to this day on all railroad watches.

Still another style of winding and setting of watches by the stem was used, and in these timepieces to set the hands it was but necessary to push downward on the crown and the clutch would engage the inter-setting wheel and this would in turn mesh into the cannon pin-

ion. This is known as the positive set.

In some hunting watches, stem wound and stem set, it was necessary when setting the hands, after opening the front lid, to tip the pendant bow over the dial. The bow had an eccentric pivot on one of the inner ends, and to this was attached a short lever that came in contact with the clutch lever forcing the clutch to mesh with the minute wheel.

Today we have the stem wind and stem set and by pulling the crown out, the setting mechanism under the dial automatically goes into the setting position, positively locked so that the setting cannot slip or become disengaged. This system is called the negative set and is used for pocket watches as well as bracelet watches—the only difference being that in the pocket watch a part of the stem and crown is held in position by means of a spring sleeve, while in the bracelet watch the stem is one entire piece with the crown attached.

The Pendulum

Our life is like a clock, I find;
To make it go the springs we wind,
And the tick tock of any clock
Is so much like life's steady grind.
And the events which fill life's day
Are like pendulums which sway.
We reach extremes, and then it seems
Life swings as far the other way.

We alternate twixt joy and woe
And it is comforting to know
When sorrows come, life's pendulum
Back to happiness will go.
But when at times it hangs suspended,
We feel that life for us is ended,
When it has dropped, life's clock has stopped
And should be either wound or mended.

For lives or clocks which do not run,
Are of no use to anyone.
They only stand with idle hands
Which mark the hour their life was done.
So let's keep wound life's hidden springs,
No matter what time brings
And take what comes from pendulums
And just be glad they still can swing.

Third Annual Convention Connecticut Horological Association

The third Annual Convention of the Connecticut Horological Association will take place Sunday June 12, 1938 at the Bordon Hotel, Hartford, Connecticut at 1 P. M. sharp.

All arrangements for the Convention have been completed by the Convention Committee.

After the business of the Convention and the election and installing of officers for the year 1938-1939, the Committee has arranged for a banquet to be held in the Blue Room of the Hotel at 7 P. M.

Arrangements have been made by the Convention Committee for the entertainment of the wives and lady friends and non-members while the business of the Convention is being transacted.

Invitations have been extended to both Governor Cross and Mayor Spellacy.

For further information and to obtain your ticket, please get in touch with your local guild secretary.

All members of the Connecticut State Association are urged to be present at this Convention as it is of extreme importance especially in regards to the State License Bill. As most of you know that the State General Assembly only meets every two years and if we miss this opportunity we must wait until 1941. Now is the time for action. Please attend 100%.

During the Convention one of the main topics of discussion will be the subject of state license bill. As the General Assembly of the State meets every two years, it is of grave importance to all within the state that we present our bill at the next assembly. If this is not accomplished it will inflict a great burden upon our state of business conditions in general should be obliged to wait until 1941.

B. J. SCARLON, *Secretary*.

Patronize Our Advertisers

The Horological Society of Cleveland

At a large dinner meeting held at Guildhall Builders Exchange Building, Tuesday evening, May 3rd, the Horological Society of Cleveland had the pleasure of having as their speaker, Mr. Orville R. Hagans, National Executive Secretary of THE UNITED HOROLOGICAL ASSOCIATION OF AMERICA, INC.

The Cleveland watchmakers and jewelers turned out in a great number and the Akron Horological Society was well represented. A representation from most nearby towns was also in attendance . Everyone was truly glad they came as they took home with them helpful pointers they had never thought about.

Mr. Hagans' talk concerning the Licensing Law and unethical business practices has really given us something to think about. The many fine points he brought out concerning various other problems of the watchmaking and jewelry field, have aroused renewed enthusiasm among the group present.

His explanation of what the U. H. A. of A. stands for and its purpose, was deeply appreciated.

The lecture was followed by a series of very interesting moving pictures presented on various subjects concerning the watchmaker and jeweler.

E. E. ELGIN, *Secretary.*

The Horological Association of Virginia

The Horological Association of Virginia held its Annual Meeting May 3, at Brown's Restaurant, Norfolk, Va.

The following officers were elected, Theron O. Sowers, President; Percy A. Jones, 1st Vice-President; Joseph A. Beil, 2nd Vice-President; Richard V. Baily re-elected Sec'y-Treas.

Board of Trustees were all re-elected, Louis Waldman, Louis A. Kline, W. Camp Shelly.

Advisory Board Members re-elected were Guy K. Herr, L. R. Hackman, H. C. Denlinger, in addition C. O. Goodrich and John C. B. Hawkins were elected to serve on the Advisory Board.

RICHARD V. BAILEY, *Secy.*

Dinner Given for the National Secretary by the Horological Society of Cleveland

Flat Polishing

By D. L. THOMPSON
Member U. H. A. A. Technical Board

POLISHING of watch parts is an art which takes some time and much persistence to learn. Many workmen give up just at the time when success is close at hand and when a little attention to their polishing blocks and materials will give the results desired.

There are three finishes that can be applied to watch parts that are within the ability of any workman, and these are: stone finish; satin or grey finish, and bright polish.

Stone finish, which is the simplest, will be described first. This finish is obtained by rubbing the part on a two-grit India oil stone. First on the rough side of the stone until the part has been ground smooth and then on the fine side until the part has even and uniform longitudinal lines. The best result is obtained by using a light oil on the stone. A part may be thus finished if it is to be placed under the dial, this style of finish is much used in high grade Swiss watches.

The satin or grey finish, the first step in polishing, is obtained by grinding the part on powdered oil stone placed on a smooth piece of glass. A small quantity of powdered oil stone mixed with oil is spread over the glass and the part held down on the oilstone with slight pressure of the finger, or a piece of cork, and moved around with a circular, or a lateral, movement until it has been ground to a smooth satiny finish. It is now cleaned in benzine and the holes, if any, pegged and then rubbed with a rubber eraser to remove any microscopic particles of the oil stone. This gives the beautiful satin-grey finish such as is found in many Swiss movements.

Next comes bright polish which is a continuation of the methods used to obtain the satin finish but with diamantine as the abrasive. This is where many workmen come to grief and if we are to be successful in obtaining bright polish we must follow certain rules to the letter. Bright polish such as is found on parts of high grade American manufacture is not possible without special equipment and experience, however, we may approach very closely to this goal if we have persistence.

The part should be ground to a uniform satin grey finish as above outlined, cleaned in benzine, all holes pegged perfectly clean and all traces of the oil stone removed. It is now examined with a high power glass and if it has any depressions or minute lines, it must be ground again until it is perfectly smooth. Unless this is done to begin with, we have no hope of obtaining a satisfactory polish.

The final polishing can now be done on a boxwood block or on a flat piece of glass. If boxwood is used it should be charged with a thin paste of diamantine and oil. The part is held and ground on the diamantine in the same manner as given above. A perfectly polished piece of steel should appear black, while if it has innumerable minute scratches it will appear grey. Polishing may be done on flat glass, however, in this case, the diamantine is used practically dry, only a very thin film of oil is spread over the glass to hold the diamantine in place. A good way of applying this thin film of oil is to place a drop or two on the glass, spread with the finger, and the excess wiped off with the palm of the hand. Do not try to use blocks for polishing that have been used with oil stone unless you are sure all traces of the oil stone have been removed as a minute grain or two of oilstone in the diamantine will defeat your efforts to obtain a high polish. This also applies to corks and fingers used in holding the parts, everything used in polishing must be absolutely free of oil stone.

For the beautiful damaskeen finish found on the exposed winding wheels of high grade watches special equipment

and some experience will be required.

Pitted end stones may be perfectly polished and restored as new by using a fine grade of diamond powder in oil on a tortoise-shell lap running at fairly high speed in the lathe. Slight pressure for only a short time will restore them to their original polish.

Ordinary polish may be had on any flat surface after grinding with oil stone powder by finishing with a fine emery buff.

Horological Guild of Spokane

On May sixth the Horological Guild of Spokane held its regular monthly meeting at Wills & Reding store. An illustrated lecture on escapements was given by Harold C. Kelly. Following the lecture P. C. Reding described in detail modern friction jeweling and made a practical demonstration by setting a jewel in a watch plate. Jeweling tools for the demonstration were kindly donated by S. H. Clausin & Company.

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Court House Clock Has Interesting History

By PAUL VANDERVOORT II

EVERY county official knows that his records contain many interesting historical facts, but one of the oldest stories which the writer has come across while examining old county records, concerns a clock. A clock which involved a county board in a lawsuit and for which a county was finally forced to pay a double price.

The story begins on November 10, 1891 when County Commissioners A. B. Todd, A. C. Loder and Jacob Tritsch of Cass county, Nebraska, entered into a contract to buy a tower clock for the new Cass county courthouse then being built. The story ends, 10 years later, when County Clerk James A. Robertson issued a warrant on a peremptory writ of mandamus from the Nebraska supreme court, which was the second time the clock was paid for.

A dispute bewteen the county board and the clock company (Seth Thomas Co.) who furnished the clock, as to the authority of an alleged representative of the clock company, seems to have been the crux of the matter.

The records show that the county board entered into an agreement with a Plattsmouth, Neb. man whom they recognized as the clock company's agent, to buy the clock for $981, half of the cost to be borne by the City of Plattsmouth, the county seat of Cass county. The clock was to be a "tower striking clock with a 1200 pound bell." An entry in the commissioners' minutes on February 3, 1892 shows that a bill for $981 for the clock was allowed by the board, and the county clerk ordered to bill the city of Plattsmouth for $450. A warrant stub dated February 4, 1892 shows that the bill was paid, a notation indicating that it was received by the man whom the county board recognized as the clock company's agent.

However, on October 6, 1893, the clock company presented a demand to the county board that they order the clerk to issue a warrant in payment of the clock. Naturally the board refused, but did accept service that the company would apply to the state supreme court for a writ of mandamus requiring the board to issue a warrant.

While there is no indication in the records to the effect, one concludes that obviously the go-between who entered into the contract with the county, decamped with the money paid by the county for the clock. A legal battle then ensued in which Mathew Gering and Byron Clark, two of the best known attorneys in the state took sides in the case. Files in the office of the clerk of the district court indicate that the major issue involved was the contention by the county that the warrant in payment of the clock had been delivered to the company's authorized agent, while the clock company denied that they had any agent in the matter, that the person to whom the warrant was paid, had no authority to receive it.

Finally, 10 years after the clock was first ordered, the Nebraska supreme court handed down a decision, ordering

the county to issue a warrant in payment of the clock to the clock company. Such a warrant was issued on March 5, 1901, but the county evidently wanted to make sure no further developments would occur. This is indicated in a letter attached to the warrant stub, which gives written authority to the county to deliver the warrant to the company's attorney, Byron Clark.

As a final touch of oddity to an odd incident, the warrant was drawn in the amount of $982, on the order of the supreme court. Why the court raised the ante $1, is not explained, as the agreed price of the clock was $981.

Swartchild Announces Summer Mainspring Sales

For many years it has been the policy of Swartchild & Company of Chicago, New York, Dallas, Atlanta and Boston to feature a special Mainspring sale during the summer months.

This issue announces a unique feature for this annual event. Whereas Swartchild & Company have usually had but one particular assortment for such a sale, the 1938 offering includes three different assortments—each with a distinct purpose.

There is a special assortment of three dozen Mainsprings for baguette to 12 ligne watches containing only standard or regularly established staple sizes. And there is another assortment of six dozen Mainsprings for baguette to 12 ligne watches containing late or modern models many of which require wider, weaker and longer Mainsprings. Finally, there is a combination offer of both at an exceptionally attractive price.

All the Swartchild assortments are put up in attractive one or two-drawer leatherette cabinets, neatly partitioned, and easy to handle. Each assortment contains both a complete set of charts (by Dennison and Metric measurements) and also the well-known Swartchild series index and guide book.

Naturally, the feature of these assortments is the special low price for the excellent quality Mainsprings which they contain. All the Mainsprings are nicely finished, properly tempered, reverse style, and have riveted tongue ends.

As a final feature the purchase of any of these assortments permits the buyer to obtain the $7.50 Swartchild micrometer gauge at $5.00.

Have no desire for a reputation the acquirement of which involves dishonesty and conceit.

An Opportunity That Means
MONEY *in your* **POCKET!**
Limited number of ambitious young men invited to learn watchmaking at famous college
Expert watchmakers are in demand! They can hold fine-salaried positions with jewelers or build up businesses of their own. Enroll at ELGIN, under the auspices of the Elgin National Watch Company. Study includes actual shop routine under competent instructors. Moderate tuition. Get full information now by writing Dept. E- 20
ELGIN WATCHMAKERS COLLEGE
E. L. Schmidt, Registrar *Elgin, Ill.*

Half the Trouble
with
Bracelet Watches
Is Caused by Improper Lubrication

FULCRUM BRACELET WATCH OIL

is made especially for fine small watches. It hugs the pivots and lubricates perfectly.

75c a Bottle

All Material Jobbers Can Supply It

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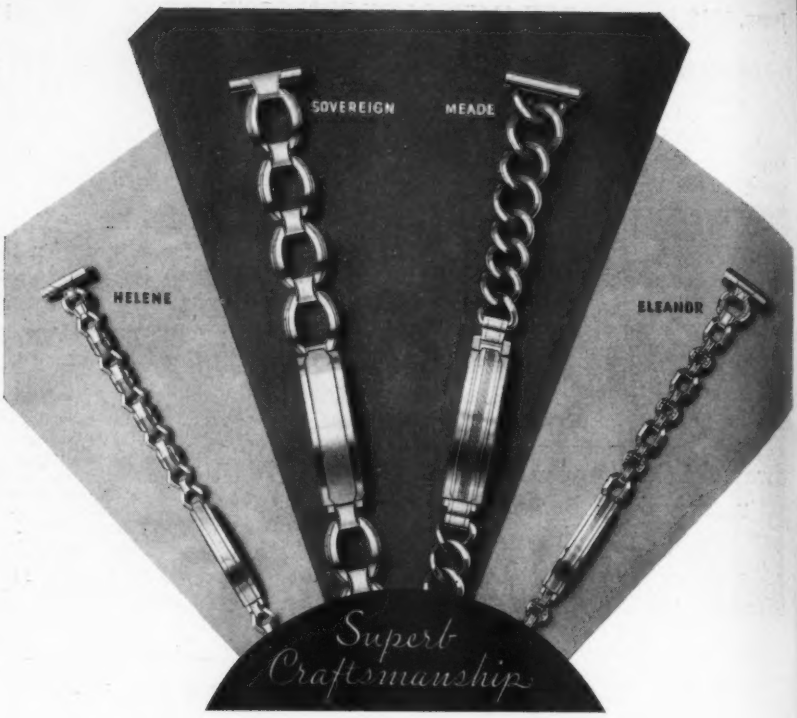
Franklin, Pennsylvania



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Equip Watches With

KESTENMADE
PEERLESS
SENTINEL
WATCH BRACELETS

A sure way to retain customer good will. Fit Kestenman Bracelets with confidence . . . assured that the smart designs, high quality and mechanical perfection of the bracelets will win and hold friends.

KESTENMADE
Means Better Made

ASK YOUR WHOLESALER

Kestenman Brothers Manufacturing Co.

Main Office and Factory—150 Chestnut St., PROVIDENCE, R. I.

NEW YORK SAN FRANCISCO

Watchmakers' Guild of Greater New York, Inc.

A City meeting of the Watchmaker's Guild of Greater New York was held on Wednesday, 25th of May at Belmont Plaza Hotel, New York City. It was the largest and most interesting meeting the Guild has had since its inception. Watchmakers from the Bronx and Manhattan filled the spacious rooms. H. B. Kahn, President of the organization clearly outlined the purposes and aims of the Guild and stressed the fact that in the face of present demoralized and degraded conditions, that the ethical and proficient watchmaker finds himself in, it is of great importance and necessity to have a strong and forceful Guild to combat and destroy the elements that are undermining and degrading our profession.

The principal speaker of the evening was Orville R. Hagans, National Executive Secretary of UNITED HOROLOGICAL ASSOCIATION OF AMERICA. Mr. Hagans' talk was of great interest to everyone present. He pointed out the proposed licensing of watchmakers with provisions embodied in the licensing law prohibiting misleading and fraudulent advertising, would in great measure eradicate some of the evils the watchmakers are faced with today.

At the conclusion of this talk very interesting, instructive motion pictures were shown pertaining to the watchmaker's craft. The very fine and highly precision tools required in the construction and repair of time pieces, etc.

SIDNEY PLOTKA, *Secretary.*

Capitol City Watchmakers Assembled

New York State Capital District Horological Guild Organized May 15th

On May 12th, Orville R. Hagans National Secretary of the U. H. A. of A. gave a lecture and motion picture program on Horological association work at the Ten Eyck Hotel, Albany, N. Y.

A group of 53 to 65 men were present, Mr. Hagans' lecture was of such a nature that it held the men spell bound. These men were so taken up with this work that following the lecture it resulted in organizing of the New York State Capital District Horological Guild, with the elections of:

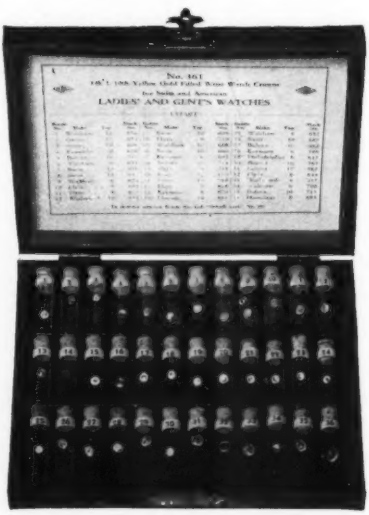
President: John De Vogel, 20 So. Pearl St., Albany, N. Y. with Marston & Seaman, Jewelers. Vice President: F. J. Kalbrener, 142 Fifth Ave., Troy, N. Y., with Van Heusen Charles & Co., of Albany, N. Y. Secretary: Wm. Harnau, 144 Washington Ave., Albany, N. Y. Self. Treasurer: Peter Palmero, 1115 Dean St., Schenectady, N. Y.; with M. Levitz & Co., of Albany, N. Y.

JOHN DE VOGEL, *Pres.*

Tennessee Watchmakers' and Jewelers' Association

The Tenn. Watchmakers' and Jewelers Ass'n held their fourth Annual Convention, May 1, 2, 3, at the Hotel Peabody in Memphis. The exhibitors were made up of leading manufacturers and jobbers of the jewelry and watch industry. Leading speakers were: Mr. W. H. Samelius, Dean of Elgin Watchmakers College, his subjects being "modern Methods in Horology", Escapement and Oil Troubles . . . Their Remedies" (explained with slides). Dr. Ralph Gould, Secretary H. I. A. speaking on the subject of "The Horological Institute of America . . . Its Aims", and "The Bureau of Standards" (featuring slides). J. Frank Newman, Executive Secretary National Ass'n of Credit Jewelers, his subject "Jewelry and National Legislation". J. E. Goode, of the Waltham Watch Co. on "Beauty and Service in Modern Watches". J. W. Dodge, Assistant General Time Inspector of the Nat. Ry. Time Service on "Four Decades of Time". V. E. Van Huesen exhibited a Collection of Time Pieces from Major Paul Chamberlain's Collection, giving history of all. Mr. J. E. Coleman ex-President of T. W. J. A. gave a talk on "Early American Clocks", Mr. W. H. Samelius was made an Honorary Life Member of the Tenn. Watchmakers' and Jewelers' Ass'n. Nashville being selected as the convention city for 1939. New officers elected were Chas. E. Maskall, Knoxville, for President, Ralph F. Langreck of Nashville, was reelected Sect'y-Treas., John B. Varallo of Nashville, Geo. R. Harding of Chattanooga, H. J. Wilson of Knoxville, L. H. Weaver of Memphis were elected Vice-Presidents. No new legislation being passed.

RALPH F. LANGRECK,
Sect'y-Treas.



NEWALL

BRACELET WATCH CROWNS

14K 1/10th Gold Filled

Extra Fine Finish and Perfect Threads

There are 36 DIFFERENT crowns for the most popular makes of Baguette and regular Bracelet size watches in each assortment.

The crowns are assembled in a 36 bottle wood frame leatherette velvet lined cabinet. Included is a descriptive chart giving the make of watch, crown tap and Newall stock number so that additional crowns may be easily re-ordered.

No. 360A Cabinet of 3 dozen White Gold Filled Crowns.....$5.00

No. 361A Cabinet of 3 dozen Yellow Gold Filled Crowns.....$5.00

No. 3601A Cabinet of 6 dozen Yellow and White Gold Filled Crowns (each bottle contains one white and one yellow crown) $8.50

Have you received your 1938 Finger Print Catalog? If your Jobber cannot supply you, write for a Free Postpaid catalog to . . .

The Newall Mfg. Co., 29 E. MADISON STREET, CHICAGO

Musical Clock

By W. C. WHITTEN

German Musical Clock looks much like any other Grandfather's floor clock with broken arch top, 9 feet tall.

Hood 3 feet 3 inches high, by 26 inches wide. The balance of the clock is in proportion.

Made of crotch mahogany and cherry.

After the clock strikes the hour a lever is tripped starting the pipe organ and plays one piece through. There are six different tunes but they have to be set by hand to the tune wanted.

In a recessed stage, opening about 6 x 6 inches there are three musicians who hold their instruments down in front of them. When the organ starts they bring their instruments up to a playing position and then weave from side to side, when the organ stops these figures bring their instruments down in front again. Figures dressed in gaudy colors.

The wood face is 18 inches wide by 25 inches high, round top, 1 inch thick in middle.

The clock is in excellent condition. When I received it the bellows were bursted. I had a pipe organ factory replace new leather and tune it.

There is not a mar or split in the case and it is very well preserved for a clock 119 years old.

Black Forest, Baden, Germany in 1824 and shipped to the U. S. in 1828, to Judge Wotring, Canton, Typ., Washington County Pa. Second owner a Mr. Rankin, Washington Co., Pa. Third owner Anthony Renz, Washington, Pa. It was held in this family many years and sold for $150.00 Oct. 31, 1902 to the fourth owner Martin Cole, Seville, Ohio. Sold by his heirs at auction June 19, 1937 to the fifth owner W. C. Whitten, Youngstown, Ohio.

MARTIN GLUCK & SONS
Jewelers and Watchmakers Supplies
CLARK BUILDING
PITTSBURGH, PA.

Chicago Meeting

(Continued from Page 5)

Now Mr. Hagans doesn't carry any bag of tricks with him but he does have motion picture and sound equipment and a great library of films covering the work of the association and phonograph records for vocal descriptions and musical interludes to entertain and keep up the attention of the group.

Mr. Hagans gave a fine description of the Horological work before showing his films and opportunity was given for asking and answering questions.

The discussion brought out a wide range of interest.

The films gave an idea of the set up of the association—some very interesting technical details as related to watch work, some pictures of Historical interest and an outline of the proposed NATIONAL HOROLOGICAL MUSEUM.

While there was not time to give a thorough detailed lecture of all the activities of the association there was shown a very comprehensive survey which produced much favorable comment even from some very inquiring persons and aroused a great deal of enthusiasm which was brought out at the close of the meeting when a nucleus was formed for the starting of a Central Chicago Horological guild.

Mr. Joe Schwarz was introduced next.

Mr. Schwarz's purpose at the meeting was to give a survey of the Wisconsin watchmakers license law and its relation to Illinois and a discussion of the next proposed license law for the watchmakers in Illinois.

He brought out that without certain state standards it would be possible for unskilled and unethical workmen to migrate from supervised states into Illinois and to practice their methods of competition not to their own benefits and to do much harm to the established Illinois watchmaker and to the general public.

He pointed out the fact that the law was not meant to legislate the worthy man out of business but to set up standards that the unworthy could be encouraged to measure up to, and thus be a grace to the profession or failing to do so would not be entitled to practice at all. He said there is no doubt but what the bill will be brought up at the next meeting of the legislature and it is up to the watchmakers of Illinois to find out where the hinderance came from which caused the governor to veto the bill that was brought up in the last legislature. It certainly did not come from the senators themselves for they voted 37 to 2 in favor of the bill.

He further stated that down state was solid for it but that the balance of the weight must be thrown in by Cook county and upstate.

The meeting closed and several interested in the formation of a Central Guild gave their names and addresses and will be contacted in the near future.

The Palmer House chef was complimented on the fine dinner and this famous Hotel opened one of their finest private dinning rooms for the general meeting.

Publicity was furnished through the generous cooperation of the Trade Press and locally by the principal material houses. C. & E. Marshall, Swartchild & Co., Emil Braude Sons, Berco, Benj., Allen & Co., A. C. Becken & Co. and Paulsons.

If time would have permitted it, space would have been provided for these material houses to demonstrate their newest productions to the trade.

However it is expected that this will be done at some near future time.

CARL H. ANDER.

LANDAW BROTHERS
Watch Material and Jewelers' Supplies
406 Clark Building, Pittsburgh, Pa.

Incomparable
Watch Case Repairing
OUR WORK COSTS NO MORE THAN ORDINARY WORK
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For the Month of June Only K. & D. Tools Will Be Sold at Special Discount of 10%

This special offer enables the Jeweler to obtain any of the high grade K. & D. Watchmakers' Tools at a saving of 10%. It includes such standard efficient articles as:

Staking Tools—The Famous Inverto Nos. 18, 5B, 16B, 504, 507B, 510, 516, 517.
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Roller Removers Nos. 150L, 150R, 200, 305B, 305C.
Calipers Nos. 404, 405, 406.
Sleeve Wrenches Nos. 145, 148, 148A.
Bench Keys Nos. 63, 64.
Jewel Pushers Nos. 43, 44.
Hammers Nos. 91, 92, 93.
Hairspring Collet Removers No. 19.
Hand Removers Nos. 310, 310A.
Balance Staff Removers Nos. 50, 50b.
C Keys—Gem Keys—Birch Keys
Anvils Nos. 85A, 86A.
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Balance Screwdrivers Nos. 22A, 27, 28, 30.
Ring Mandrel No. 105
Lathe Motor No. 105J.
Demagnetizer No. 202

INSIST ON THE K. & D. TRADEMARK

This Offer Positively Expires June 30th, and does not apply to replacement parts nor repairs.

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Hammel, Riglander & Co.
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Exclusive Wholesale Distributors

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P. E. Stringer Celebrates 45th Year With Elgin National Watch Company

Superintendent of Watch Factory Has Helped Make Thirty Million Timepieces!

Forty-five years ago this spring, young Percy Stringer trudged home from his first day's work at the Elgin National Watch Company. No electric street lamps lighted his way. No convenient busses stopped to pick him up. No airplanes roared overhead.

All these things were to come in the distant future. And as they came, Percy Stringer advanced slowly, steadfastly, until his boyhood ideal came true, and he was General Superintendent of the world's largest fine-watch factory.

1893 — The Chicago World's Fair — a world awakening for the second great era of industrial development.

An exciting new world to the 13-year-old farm boy whose first job was to run erands for the Gilding Department of the Elgin National Watch Company. Ten hours a day—50c a day—there was his job and his opportunity. At night—correspondence school courses in mathematics and mechanics.

1898—The first automobile is sold for $1,000.00.

Young Stringer moves up—becomes assistant jobmaster of the Screw Department's pendant spring job.

1903—Orville Wright flies the first airplane, to the amazement of the world.

A new jobmaster of the automatics machine takes up his duties with ever-increasing interest in the fascinating science of watchmaking. It is P. E. Stringer.

1910—The first industrial rayon plant is opened. The washing machine is invented.

Percy Stringer has just been appointed assistant foreman of the Screw Department. His native mechanical ability is making a lasting impression on his superiors.

1912—Airplane speed reaches the "astonishing" figure of 108 miles an hour.

The watchmaking industry is growing by leaps and bounds. And P. E. Stringer is foreman of the Elgin Spring Department.

PERCY E. STRINGER

1914-1916—War abroad! Panama Canal opens. Vitamins discovered. Ford puts in first assembly line.

Swift, eventful years for P. E. Stringer, who has by now become known as the crack "trouble-shooter" of the Elgin National Watch Company. He becomes successively head of the Motion, Spring and Speedmeter Departments. He continues as foreman of the Spring Department. His ability to gain highest loyalty and co-operation from the men under him is more and more in demand in the front office.

1924—The beginning of the boom years. American flyers girdle the globe for the first time.

Nearer and nearer to his goal comes P. E. Stringer. On December 1, 1924, he becomes foreman of the Train Department.

1926—The first "Talkie". Byrd makes the first South Pole flight.

After thirty-three years of continuous service in practically every manufacturing department of the Elgin National Watch Company, Stringer is appointed Director of Manufacturing.

1931—First railroad air conditioning. First television broadcast.

And marching along with an amazing new world, P. E. Stringer becomes Superintendent of Manufacturing.

1933—First airplane sleeping berth. First streamlined train under construction.

A banner year for P. E. Stringer, for it marks the realization of his life's ambition. On January 1, 1933 he becomes the General Superintendent of the Elgin National Watch Company. On March 1, he is made Assistant Secretary and Treasurer.

1938—Forty-five years have passed since the first time P. E. Stringer first made his rounds as an errand boy. The farm boy, who was one of a family of twelve, has won the right to be called a success

(Continued on Page 42)

National Watch Inspection Week

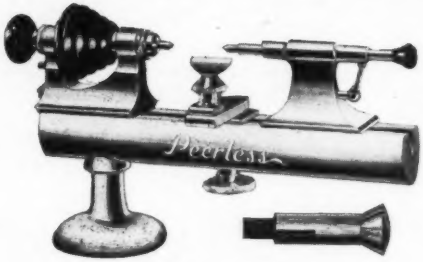
TOP HONORS

Omaha, Nebraska presented a most effective and beautiful arranged watch inspection week display. This display was arranged through the former president of the Nebraska Horological Association, Mr. Anderson, and he is to be highly commended for such an effective display which definitely instils a thought in the minds of the consuming public that should become a part of all advertisements used by our members throughout the nation: "The Horologist cannot be replaced by machinery."

Fine American Made

PEERLESS

Precision LATHE



Length of Bed, 11 inches
Height, Center to Bed, 2 inches
Swing 4 inches

CHROME PLATED

A Precision Lathe of high quality material and workmanship, built to last a lifetime. Finished in modern, non-tarnishing chromium. Chucks and attachments interchange with W. W. Lathes.

10 CHUCK COMBINATION

No. R39640. PEERLESS LATHE with tip over "T" rest and 10 chuck combination—8 wire chucks, 1 taper chuck with taper, 1 screw chuck with six ¼" cement brasses. Complete with chuck box and leather belting..... **$49.50**

WORTH OVER
$60.00

$4.95

A MONTH
FOR 10 MONTHS

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DALLAS
DETROIT
LOS ANGELES
NEW ORLEANS
MILWAUKEE
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4 Times ther

ELIMINATE IN

Gives Exact See of Work and te

Once you have a Power- r, y without it. All of your lathe nd viously were troublesome w gives you 4 times the powe eed. slowly for the most accurate or w

Horological authorities ha me last one can be had THAT IS ANS the work with COMPLETE SA de i

No. 39409. Power-Stat. Made ors, Little Giant, Hamilton Beach, etc. Complete with belting.....

Mentio Mot

C. & E. MA

A GREATER VALU

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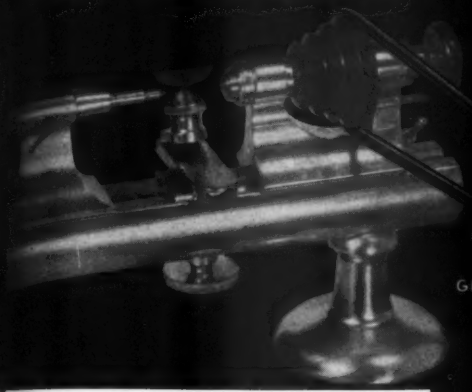

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a Power r, you will wonder how you ever got along your lathe d easier and quicker and the jobs that pre- lesome wi form. Takes the place of a counter-shaft and the powe ed. Heavy face plates, etc., can be turned t accurate er will have its full power and will not stall.

horities he mended a device of this character. Now at H THAT IS NS OF EVERY WATCHMAKER and that does MPLETE SA le in our own factory and guaranteed.

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$4.95

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An investment you'll always be glad you made—you'll never want to be without a Power-Stat.

MA ALL CO.
VALU GREATER SERVICE

EMOS HOUSE IN THE WORLD

CHICAGO
Box 7737

COLUMBUS
PITTSBURGH
HOUSTON

KANSAS CITY
OKLAHOMA CITY

Curious Clocks

The most celebrated clockmakers of today are those whose clocks keep the best time. Centuries ago the clockmaker who wished to achieve renown devoted his ingenuity to introducing into his timepieces all sorts of elaborate and spectacular devices, such as apparatus for indicating the movements of the heavenly bodies, and a variety of automata, in human or animal form, which performed their evolutions at certain hours of the day. Many remarkable clocks of this description have survived to our time, and are still in working order, though some of these have undergone so much reconstruction that they are essentially modern productions.

Perhaps the most famous timepiece in the world—certainly the one most sought out by tourists—is the astronomical clock in the Cathedral, or Minister, of Strassburg. In its present form it is not very old, as it was constructed about 1840, but it is the successor of two timepieces of more or less similar design, one built in 1352 and the other in 1574. Parts of the latter were used in making the present clock. The best time to visit this clock is noon, local time (differing by half an hour from the standard time used in Strassburg), when one may see the procession of the twelve Apostles and the very realistic performance of a great cock, who flaps his wings, ruffles his neck and crows three times. Numerous other figures play their parts in the spectacle. The Strassburg clock is equipped with wonderful mechanism for showing the time of occurrence of astronomical phenomena, such as the rising and setting of the stars, eclipses of the sun and moon, etc.

A clock of this sort was built at Prague, in Bohemia, in 1419, and it is related that, when the timepiece was completed, the maker's eyes were put out, in order to prevent him from duplicating his achievement elsewhere. The story goes on to record that the ill-used artisan, shortly before his death, obtained permission to visit the clock; whereupon he removed an essential part of its mechanism, and nobody could be found skillful enough to restore it. This identical story, however, is met with in other parts of Europe, not only in connection with clocks, but with various other mechanical contrivances.

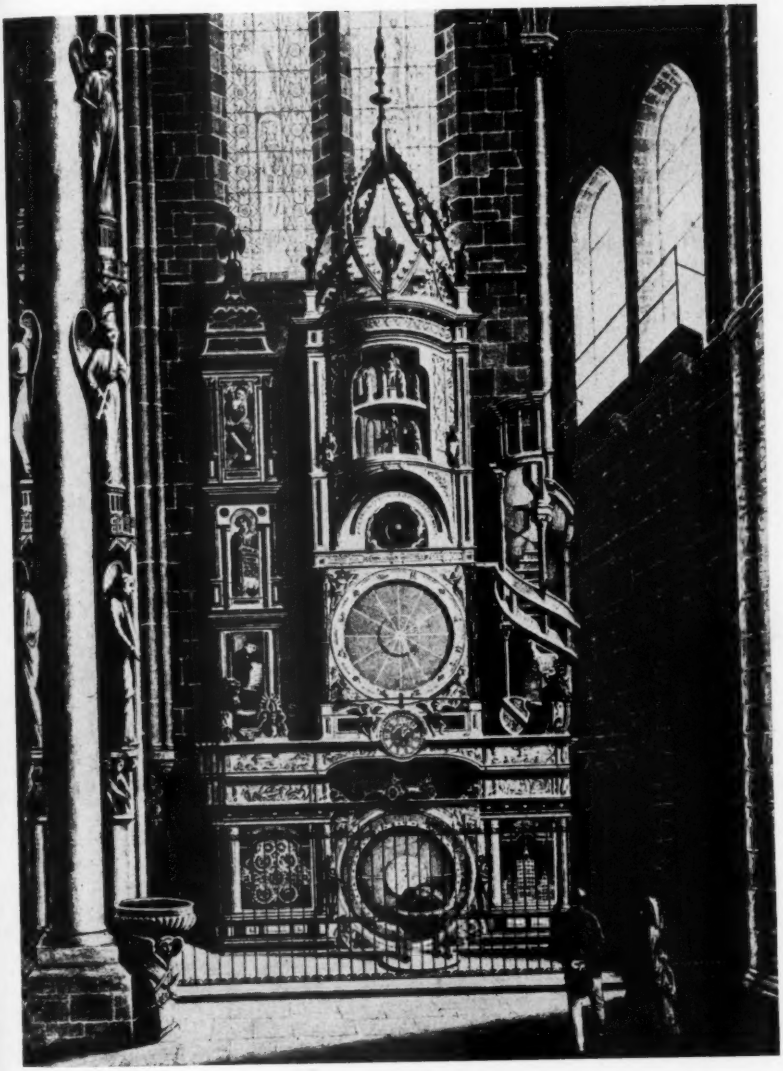
Even more elaborate than the two timepieces just mentioned is the astronomical clock at Olmutz, Austria, built in 1420 and reconstructed in 1898. It is fifty feet in height and fills a nich on the north side of the townhall, where its performances attract throngs of spectators. The mechanical figures include a company of angels, who play upon chimes, a procession of priests and acolytes, the three Wise Men of the East, with their attendants, and many other legendary and historical characters.

Numerous dials show, in addition to solar and sidereal time, various details of the calendar and of celestial phenomena.

Mechanical figures for striking the hour on bells are commonly seen on public clocks, and are sometimes called "Jacquemarts," or "Jacks." Some of these are very ancient. They appear, in fact, to have been in use before the introduction of clock-dials; for the earliest timepieces driven by weights (as distinguished from water-clocks) were probably intended only to strike the hours, and not to show the time in any visible way. The two bronze giants surmounting the clock tower in the Square of St. Mark, Venice, are a familiar example.

—*The Mentor.*

You Have PLENTY POWER
FOR GOOD MOTION
When You Use
SANDSTEEL
CROSSCURVED MAINSPRINGS
Patented. Made in U. S. A.
For American and Swiss Watches
Watch-Motor Mainspring Co., Inc.
145 HUDSON ST. NEW YORK CITY
Send for Catalog No. 9



THE GREAT CLOCK

Strassburg, Germany—Art and Beauty Series

Notes On Repair of Synchronous Motored Clocks

EDITOR'S NOTE: With this article we continue the subject of electric clocks which will continue consecutively. The articles to follow are from several authentic sources and will cover construction and service thoroughly.

ARTICLE No. 4

New Haven Clock

Hum in electric clocks is caused by the following conditions:

1. Excessive consumption of electricity due to use of cheap coil made of heavy wire. Such a coil sets up vibrations throughout the movement with each change of alternating current from positive to negative. As these cycles occur 60 times each second, a continuous hum takes place. This condition cannot be rectified as such a cheap electric clock demands excessive power to drive its motor. Our New Haven electric clock coils use 7100 turns of No. 41 wire in their coils. Such a coil is expensive, but by its resistance blocks out excessive electrical vibration—the cause of noise. Such a high grade coil saves the user of the clock about sixty cents a year and eliminates practically all hum.

2. Another type of hum is caused by fast moving gears in high speed motors. Aside from reoiling there is little that the repair man can do to repair a noisy gear train. New Haven's motors turn 300 R.P.M.—others 180 R.P.M. These low speeds do not permit gear noise. However, in replacing a motor, the first mesh adjacent to the motor itself, must be carefully set to the proper depth.

3. A continuous or intermittent scratching or grinding sound is usually a sign of failing oil. Such a noise means the disappearance of lubrication from the main motor bearing. The result is loss of time. Such a condition can be remedied by additional mineral oil applied to the motor bearing.

Sometimes the motor bearing wears sufficiently to permit the rotor to rub on the stator plates or field pieces. Such a worn clock will stop for good within a few weeks. Where wear has become so serious, a new motor is a more satisfactory repair than to install new parts. It is extremely difficult for the average repair man to install new bearings, and to replace worn bearing pins in the average electric clock motor.

Fast motors are improperly made—a rare occurrence in high grade electric clocks. A fast clock should be remotored.

In every case of electric clock stoppage, first investigate condition of plug, cord and coil. The surge from a lightning bolt will occasionally burn out the coil.

P. H. ENGLISH,
Treasurer.

Dedicated to Secretaries

The folowing, which is dedicated to any person who holds a position as secretary in any organization, was clipped from the Keuka *News* by Frances Cobb, 421 W. 11th St., Pueblo, Colorado. Miss Cobb is good enough to pass it along to be shared with other readers.

If the secretary writes a letter, it's too long.
If he sends a postal, it's too short.
If he doesn't send a notice, he's lazy.
If he attends a committee meeting, he's butting in.
If he stays away, he's a shirker.
If he duns the members for dues, he's insulting.
If he fails to collect the due's he's slipping.
If he asks for advice, he isn't competent.
And if he doesn't he's bullheaded.
If he writes his reports complete, they're too long.
And if he condenses them, they're incomplete.
If he talks on a subject, he's trying to run things.
If he remains quiet, he has lost interest in the organization.

Ashes to ashes,
Dust to dust;
If the others won't do it,
The secretary must!

Sioux City Horological Guild Organized

Sioux City, Iowa, jewelers and watchmakers held a very successful meeting at Jackson Hotel April 25th. Attendance was over 50 and much interest was shown in the lecture and moving pictures.

A dinner was served at 6 P. M. after which the executive Secretary of the U. H. A. of A. Orville R. Hagans delivered a most interesting and right to the point lecture on ways and means of raising the standards and ethics of watch repairing and jewelry business in general.

After the lecture and moving pictures the local group consisting of 18 members of the U. H. A. of A. organized, SIOUX CITY HOROLOGICAL GUILD, electing P. Berglund, President; George Gunderson, Treasurer; C. M. Huett, Secretary.

We also received six applications for membership and many others asserted their willingness to join later.

The Guild now has over 35 members.

Banquet of Sioux City Horologist Guild

Horological Association of Nebraska Holds Meeting in Omaha

The first of a series of speaking engagements by Orville R. Hagans of Denver, Colorado, National Executive Secretary of U. H. A. of A. was delivered in Omaha, Nebraska April 25th.

The meeting was opened by Chairman, R. P. Kraatz, where nearly one hundred Horologists, Jewelers, their wives and friends from Nebraska, Iowa, South Dakota and Kansas were in attendance. During the meeting another guild was formed by the Horologists of Lincoln and temporary officers chosen. A number of new members from other parts of Nebraska were entered.

Several reels of motion pictures were shown, together with a partial explanation of the technical library maintained by the National office to members.

A short explanation of the proposed Nebraska licensing law was delivered by Mr. Tihrt of the legislative committee.

Enthusiasm shown was very pronounced and encouraging to the sponsors of the meeting as well as to Mr. Hagans, the main speaker.

St. Paul Watchmakers' Guild

On Tuesday evening, April 26, Orville R. Hagans, Executive Secretary of the UNITED HOROLOGICAL ASSOCIATION OF AMERICA, spoke to a group of Minnesota watchmakers.

The meeting was held at 1955 University Avenue in St. Paul and was called by the St. Paul Watchmakers' Guild.

Approximately 100 men were present and the benefits to be derived from organization were ably presented to the audience by Mr. Hagans.

Necessity of unified action toward legislation was explained by Mr. B. W. Heald of Wisconsin, who paid a surprise visit to the meeting. He told of what already has been accomplished in his state.

Also on the program was Mr. W. H. Samelius, Dean of Elgin Watchmakers' College, whose subject of discourse was compensated balance wheels and positional adjustment of watches.

A large group of Minneapolis watchmakers were present and steps are being taken to form a guild in that town also.

KARL G. NEID, *Secretary.*

H. I. A. Resolution Passed by the Advisory Council

RESOLVED:

That it is the opinion of this body that the laws licensing watchmakers, such as were passed in Wisconsin and are being considered in other states, are for the protection of the public and the betterment of the horological profession and that the Horological Institute of America should do everything in its power to further these laws by cooperation and assistance to the local and state organizations sponsoring them.

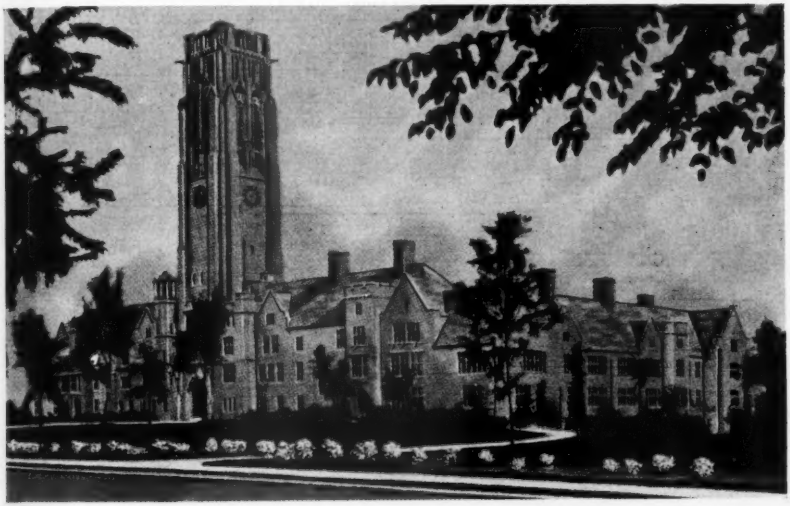
Furthermore, it is the opinion of the HOROLOGICAL INSTITUTE OF AMERICA that these laws to be effective from a National standpoint, should be as uniform as possible throughout the country with a uniform standard of examination.

Furthermore, the establishment of such uniformity of laws and examinations, would be greatly assisted by the inclusion in every law of a reciprocal clause, giving each State Examining Board the discretionary power to recognize the licenses of other states, as well as the Certified Watchmaker certificate of the HOROLOGICAL INSTITUTE OF AMERICA.

Partial Group of St. Paul Meeting

The Toledo Watchmakers' Guild Celebrates Anniversary

The Toledo Guild of The Ohio Watchmakers Association, Inc., celebrated their fifth anniversary, with a lecture by Mr. O. R. Hagans, National Executive Secretary of THE UNITED HOROLOGICAL ASSOCIATION OF AMERICA.



Where Our Meeting was Held. University of Toledo.

This lecture was held Monday evening May 2nd at 8 P. M. in the University of the City of Toledo.

Invitations for this lecture were sent to all the Jewelers, watchmakers and their wives, and also to those interested in horology. The attendance was beyond the expectations of the Guild and their members are more than pleased with the results of their efforts.

Mr. E. G. Schirner, President of the Toledo Guild, gave a short resume of the accomplishments and the activities of their mmebers since the formation of the Guild five years ago. One of the accomplishments stressed by Mr. Schirner is the personal friendly feeling created among the watchmakers of the Guild and city.

After the speech by President Schirner, Mr. O. R. Hagans was introduced to the members.

Mr. Hagans' lecture dealt with the contributions of the watchmaker to the world during the past centuries, naming some of the inventions and the watchmakers responsible for them. He described how these inventions contributed to the advancement of other industries and stated that the watchmaker has given more to the world than any other branch of industry with the exception of chemistry.

Speaking on the intelligence of the watchmaker, he advised us to increase our personal contacts with other men in the trade and to break down the individualism and narrow mindedness which is so pronounced in our craft. Mr. Hagans called attention to the services of the National Office, such as employment, legal and technical which are available to its members.

The next subject discussed was the licensing bill which is now in operation in Wisconsin and which is in formation in several other states.

This was followed by moving pictures

and sound equipmenet showing and explaining technical data and the methods of manufacturing watches and their servicing.

The lecture was indeed educational and interesting not only to the watchmaker, but also to the public. The Toledo Guilds feels that it was indeed fortunate in being able to hear the address and lecture of Mr. O. R. Hagans.

Connecticut Horological Association Entertains National Secretary

On May 20th the Connecticut Horological Asscciation entertained Mr. Orvill R. Hagans, National Executive Secretary of THE UNITED HOROLOGICAL ASSOCIATION OF AMERICA, INC., at a dinner and meeting held at the Hotel Taft in New Haven, Connecticut.

The meeting was largely attended by jewelers and watchmakers from New London, Bridgeport, Hartford, Waterbury and New Haven, Connecticut.

Mr. A. H. Rosenbeck, President of the New Haven Guild introduced Mr. A. R. Raphael who was the toastmaster for the evening.

Mr. Raphael introduced Mr. and Mrs. Hagans, Mr. Seibel, president of the Connecticut Horological Association, and Mr. Samelius of the Elgin Watch Company to the audience.

Mr. Samelius told those present how the organized bodies of watchmakers all over the country have helped to create good will and better workmanship between members of the same profession.

Mr. Raphael read the Watchmaker's License Bill which the Connecticut Guilds are going to introduce before the Legislature at the next session.

Mr. Hagans told how the license law works in the state that has adopted it and the benefits derived from its adoption. He told of the progress that has been made by THE UNITED HOROLOGICAL ASSOCIATION and showed movies to illustrate his remarks. He also gave a report of the National Convention held in Boston in May.

EARL R. BECKER,
Recording Sec'y.

Affiliation Papers Recorded

NEW YORK STATE SCHOOL STUDENT WATCHMAKER'S GUILD NO. 1

National affiliate No. 29
Officer Personnel
President.....Robert Johnson
Vice-Pres.....Edward Carter
Secretary.....G. J. Lehler, II
Treasurer.....Romanto Woodward

SIOUX CITY HOROLOGICAL GUILD

National affiliate No. 30
Officer Personnel
President.....Perry Berglund
Secretary.....Miles Bradbury
Treasurer.....George Gunderson

DETROIT HOROLOGICAL SOCIETY

National affiliate No. 31
Officer Personnel
President.....George Dygert
Vice-Pres.....Edward J. Gehringer
Secretary.....Philip H. Clucas
Treasurer.....P. H. Clucas

NEW YORK STATE CAPITAL DISTRICT HOROLOGICAL GUILD

National affiliate No. 32
Officer Personnel
President.....John De Vogel
Vice-Pres.....F. J. Kalkbrener
Secretary.....William Harnan
Treasurer.....Peter Palermo

RHODE ISLAND HOROLOGICAL ASSOCIATION

National affiliate No. 33
Officer Personnel
President.....Leo J. Abisch
1st Vice-Pres.....L. Vaine
2nd Vice-Pres.....
.....Thomas A. Ormsberg
Secretary.....Theodore Vaine
Treasurer.....Armand Guertin

Prove Your Appreciation

Horological Institute of America

The Examining Board of the Horological Institute met in Washington, D. C., on April 23, 1938, and granted certificates to the following wachmakers:

Certified Watchmakers

Name	Address	Employed by
J. Frank Carter,	Greensboro, N. C.	A. A. Schiffman
Van Roy Fite,	Tallahassee, Fla.	Moon Jewelry Co.
Alfred J. Geesler	Utica, N. Y.	Lewis Werner Co.
P. A. Harmon,	Scottburg, Ind.	Self
Jay D. Karas,	Ogden, Utah	Dr. Charles Anderson

Junior Watchmakers

Worth L. Davis,	Great Falls, Mont.	Charles E. Davis
Ian Martin Farquhar,	Peoria, Ill.	Student at Bradley Institute
Howard P. Korstad,	Haywood, Calif.	Self
Everett Krablin,	Elgin, Ill.	Student at Elgin Watchmakers College
E. E. Lawrence,	Elgin, Ill.	Student at Elgin Watchmakers College
Paul R. Leake,	Peoria, Ill.	Student at Bradley Institute
Kenneth L. McCray,	Waynoka, Okla.	Self
Louis I. Pertcheck,	Toledo, Ohio	J. Perlmutter
Carl J. Plett,	Enid, Okla.	H. A. Gregg
Paul F. Schuett,	Elgin Ill.	Student at Elgin Watchmakers College
Milton E. Thee,	Paducah, Ky.	J. L. Wanner
Russell Vogt,	Peoria, Ill.	Student at Bradley Inst.

With this list of Junior Watchmakers, the list for this fiscal year is closed. Awards of three scholarships for the highest grades for the year will be announced at the Annual Meeting of the Institute to be held in Washington, D. C., on May 9, 1938.

Respectfully,

R. E. GOULD, *Secretary.*

Detroit Horological Society Organized

The first meeting of the Detroit Watchmakers desiring guild formation met in the Hotel Detroit Leland on May 1, 1938. The meeting was opened at approximately 2:30 P.M. with an attendance of about sixty men. Mr. O. R. Hagans of Denver, Colorado was introduced to the watchmakers of Deetroit by National Treas., Mr. E. Schneider. His lecture dealt with the evils that beset the watchmakers at the present time in different parts of the United States.

After discussion and questions by the watchmakers pertaining to the evils in our locality, Mr. Hagans gave a sound and well illustrated lecture showing what the U. H. A. of A. has accomplished and are striving to do for watchmakers throughout the country.

It was moved and seconded that the watchmakers in Detroit form an organization to be known as the Detroit Horological Society.

The temporary officers elected at this meeting were Mr. George Dygert, President; Mr. Edward Gehringer, Vice President; and Mr. Philip H. Clucas, Secretary.

It was decided that our next meeting be held Monday, May 9, 1938 at the Hotel Detroit Leland.

P. H. CLUCAS, *Secretary.*

Frictioning the Cannon Pinion

PROBABLY in no detail of watch repairing, have more plans been proposed than in the matter of frictioning the cannon pinion.

Most American watches are now so made that frictioning the pinion gives but little trouble. Some of the companies have made pinions of many different styles, but we will not need to concern ouselves with all these; consideration of a few typical cases will be sufficient.

First: the class of pinions now very common, in which the tube of the pinion is reduced to produce sufficient resilience of surface. Such a pinion is shown in Fig. 1, in which the surfaces *a*, form the bearing for the hour wheel, and the reduced part *b*, the resilent portion; which may be manipulated in various ways, to friction it on the arbor.

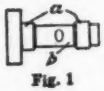


Fig. 1

A very common way is to squeeze it with cutting pliers, producing indentations on opposite sides. This is generally effective enough, but is not neat and workmanlike as we should always try to have our work appear. A pair of pliers might be prepared for this purpose, with the jaws rounded and smooth, which would do the work with the desired nicety.

This work may be done to perfection with the Staking Tool. We place the pinion on a taper brass wire—supplied with all the better class of Staking Tools —place the crotch stump in position, and laying the pinion in the notch—the wire serves as a convenient handle — we bring down the peening punch, with its rounded end arranged crosswise the pinion, Fig. 2, and with a light tap of the hammer on the punch, produce an indentation in the pinion as shown at *b*, in Fig. 1. Should we find the friction now too stiff, it may be lessened by inserting a round broach in the pinion, and turning it slightly.

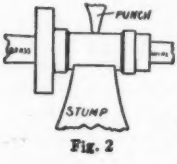


Fig. 2

We must exercise care in this, or the friction may again be too free. We frequently find that the original indentation has been made so far down on the pion, that it will be loose when placed in position, no matter how much we may indent it. This effect is sometimes produced by the center arbor having too much back taper.

In such cases, we should straighten the original indentation, by inserting a round broach, and then making an indentation higher up. We have had cases where it was necessary to shorten the upper bearing *a*, for the hour wheel, in order to get the indentation high enough to be effective. In a few cases we have found it necessary to modify the back taper of center arbor slightly.

The Elgin pinions having the tongue, may be frictioned by inserting a wire in the pinion, up to about the center of the tongue, and then depressing the point of the tongue with the punch in the staking tool. Fig. 3 shows the conditions; *a* is the wire, the equare end at *a*, *b* is the end of the peen punch, resting on the end of the tongue. The pinion is now laid in the crotch stump, when a light tap with the hammer on the punch will slightly bend the end of the tongue downward.

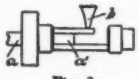


Fig. 3

If the increase of friction needed is but slight, the taper brass wire put through, as with the pinion with thin wall, instead of the square ended wire we have recommended, will answer. Another plan which works well, is to make a steel piece shaped in section *a* (end view) and made taper. This may be put through the pinion crosswise under the tongue, as shown in Fig. 4, in which

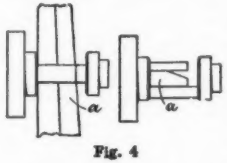


Fig. 4

the piece *a* is shown both in plan and elevation. The piece *a* should be hardened and tempered to a blue or spring temper. It will be found convenient to provide the piece *a* with a suitable handle, or what is as well or better, is to file up the form *a* on the end of a piece of steel long enough to serve as a handle. With this tool, the end of the pinion tongue may be bent down, with but little risk of breakage. Attempting to bend the tongue without something under it is pretty sure to result in breakage.

The Elgin pinions with the *transverse* tongues, may be satisfactorily frictioned by inserting a taper brass wire, and bending the tongue down with a punch, used as in the case of the thin walled pinion. In the preceding cases we have used the peening punch; about equally good results may be obtained by the use of a small round-faced punch.

In many stem winding Swiss watches, the center pinions are hollow, and the arbor is frictioned in the center pinion. It is generally more difficult to get a smooth and uniform setting friction on these than on the pinions we have been considering, for the reason that the holes in the center pinions are seldom absolutely round, and the walls are thick and unyielding.

Sometimes it is advisable to make the center arbor tight in the center pinion, then make a slight back taper on the front end of the arbor, and friction the cannon pinion as in American watches. But if the arbor is in good condition, and a good fit for the hole in the center pinion, there is an easier way that gives most excellent results.

With a round edge lap, grind a hollow in the center arbor, at about the middle of the part working in the center pinion.

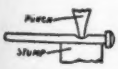


Fig. 5

Then lay the arbor on a brass stake, or stump in the staking tool, and with the peening punch placed in the hollow as shown in Fig. 5, a light tap on the punch *slightly* bends the arbor, with very little danger of breakage. If we have no brass stump, a piece of sheet brass laid on top of a steel stump, answers as well.

When the slightly bent arbor is inserted in the center pinion, the walls of the hole bring it straight again. This plan provides a remarkably smooth and durable friction. Instead of grinding, the hollow may be filed, but grinding is much the quicker and better way. Grind the arbor on one side *only*—this is important. Before inserting the arbor, be sure to oil it; setting friction surfaces should *always* be oiled.

Many watchmakers adjust the setting friction much too stiff. It should in no case be so stiff as to reverse the motion of the train, when the hands are set back. The average workman experiences more difficulty, as a rule, in adjusting the friction in watches of the full plate type, for the reason that the walls of the cannon pinion are thick.

A generally satisfactory method is to grind a hollow in one side of the pinion with our round edge lap, as shown in Fig. 6. The hollow should extend nearly through the wall of the pinion. We then slip the pinion on a round taper brass wire, and with the smallest round-faced punch, make a slight indentation in the center of the hollow, resting the pinion during the punching in the crotch stump in the usual way.

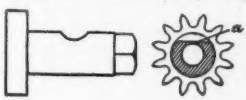


Fig. 6

If the grinding of the hollow is properly done, this makes a good, workmanlike job, and produces a smooth, even friction. In some cases, where the arbor has been damaged by the use of cutting pliers, or other harsh methods, in efforts to friction the pinion, and in which cases it would be difficult to get a smooth, even friction in the usual and legitimate way, it may be allowable to punch the lower end of the hole in the cannon pinion, with the triangular pointed punch used to tighten rollers. The arbor is generally uninjured at the point where the burrs

thrown up by the triangular pointed punch would came, and this method is frequently effective, though we don't pretend to like it.

There are some cases—generally very old watches—where the center arbor is so very badly injured, as to make it entirely impracticable to friction by any of the regular methods. When the arbor will admit of reduction sufficient to make it round and smooth and still be large enough for strength, we may proceed as follows: rebore the pinion large enough to receive a steel tube fitting the arbor, and with a wall thick enough to admit of frictioning by indentation in the usual way.

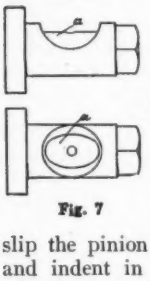


Fig. 7

After the pinion is rebored, and before driving the tube in, we grind through one side of the pipe with our round edge lap; the hollow should extend to the center. We then insert the tube tightly in the pinion, finishing the end flush; then slip the pinion on the taper brass wire and indent in the usual way; Fig. 7, shows the finished job, plan and edge views.

The careful workman notes the condition of the setting friction when he takes the watch down; and if the arbor needs repairing, he does it before cleaning and assembling the watch. If *all* would do likewise, much time would be saved and botch work avoided. Nothing contributes more to *rapidity* and *high standards,* than system in our work.

K. and D.

"Talking Clock"

Paris' observatory "talking clock," which automatically announces the correct time every 10 seconds, was consulted by Telephone 5,000,000 times in the last year.

Perhaps there is no man so utterly unhappy as the useless drone.

Durfee Memorial Clock To Undergo First Repairs

Faithful Timepiece Has Been in Operation Daily Since Formally Presented to the City, Back in 1916 .

Scranton, Pa.

The Durfee Memorial Clock will undergo its first repairs next month. The faithful timepiece has been in operation daily since it was presented by the late Thomas R. Durfee, pioneer city philanthropist, in 1916. Repairs will be made by the Howard Clock Company, Boston, at a cost of $550.

The huge weights that regulate the clock have been found to be in an unsafe condition and Mayor William L. Monahan remarked at the last meeting of council that he was afraid that one of the weights would bounce into his private office any day now. It was then that repairs were ordered.

When the City Hall was erected, spaces for a clock were left at the steeple but no clock was ordered because the city lacked sufficient funds at the time. Mr. Durfee bought the timepiece in 1915 and it was installed the following year. A simple bronze tablet reads "Presented to the citizens of Carbondale, 1916, Thomas R. Durfee."

While repairs are urgent a representative of the Howard company stated that the mechanism of the time-teller today represents an outlay of more than $5,000. "Repairs," he said, "will put the clock back in A-No. 1 condition."

The only outward blemish on the clock is a cracked face on the south side. This was caused when a stray bullet from a celebrator found its mark near the center of the dial. Police found the bullet on the floor the next day. The guilty person was not located.

Patronize Our Advertisers

We view the world with our own eyes, each of us, and we make from within us the world which we see.—Thackeray.

The Aims and Objectives of Pennsylvania

By State President,
GEORGE NIESSLEIN

To Promote the Welfare of the Horologist by:

1. A co-operative study of our problems, ills, and needs.

2. An interchange of ideas, experiments and findings of the various phases of our craft, thereby increasing our ability and skill, thus making us more useful to ourselves, our employers, and our public.

3. A unified activity to increase the ethics in the handling of the public and weeding out that small group casting reflections on the honesty and the integrity of the craft.

4. To work steadfastly for legislation, that will eliminate those practicing or working at the craft who are not properly trained and have not passed a satisfactory examination, and the punishment of unethical practitioners.

5. To augment a wider social circle among the Horologists.

6. To provide a means for the proper training of apprentices and through lectures, books, and other devices to improve the advanced student or craftsman to further his ability.

7. To sponsor an employment bureau in co-operation with the National body.

8. To work in harmony with the Jewelry and allied industries for a mutual betterment of conditions.

9. To disseminate by word or literature, knowledge, making the public better acquainted with timekeeping instruments, their use, their care, together with a better understanding of the professional requirements of an Horologist and his place in History and in Civilization.

10. Our whole-hearted support to THE UNITED HOROLOGICAL ASSOCIATION, INC., and what they stand for in their attempts to elevate the craft, and the unselfish leadership of its officers since its inception.

Amen.

Mention "The American Horologist"

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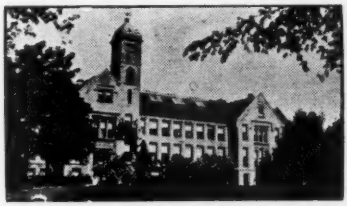

WATCHWORK
JEWELRY
STONE SETTING
ENGRAVING

Bradley Polytechnic Institute
School of Horology
DEPT. B PEORIA, ILL.
Established 1886

Staking Train Pinions

STAKING train pinions, where a smooth arbor fits friction tight in the wheel, is a simple operation, although sometimes giving the workman considerable trouble. Frequently the hole in the wheel has to be opened slightly; this often gives trouble. If the hole has to be opened, the wheel should be chucked in the lathe, and the opening done with a small cutter in the slide rest, or jeweling rest.

If the workman insists on taking a short cut, and opening the hole with a broach, it's well to know how to do it with least chance of putting the hole out of true: in broaching, turn the broach in one direction only; not back and forth, as generally done with cutting broaches. Just how much smaller the hole should be than the pinion arbor, depends upon several things, which vary in different cases. If the wheel is hub-bed, thus having a longer hole, it will not need to fit so tightly, as where there is but the thickness of the wheel to depend upon. To drive a new pinion so the wheel will occupy *exactly* the same position as to height that it did on the old one, is made extremely simple and certain if we use the micrometer stop. See the article on some of the various uses of that useful device.

Staking pinions of the Swiss type is a class of work where we see some awful butchery displayed. A fruitful source of this, is because it is attempted to force the pinion into the new wheel without first carefully turning away the old riveting. This should be done after the pinion is removed from the old wheel. The shoulder and leaves should be restored to as nearly as possible the condition of a new pinion. Generally it will be desirable to smooth out the undercut, bringing the end of the leaves once more to a point, or nearly so.

Then in fitting the new wheel the hole should be opened very carefully until it can be pressed on the pinion, about the same as a balance should fit its staff. If the hole is made too large, it is very difficult to rivet the wheel securely. On the other hand if the hole is too small, it is almost impossible to put the wheel on centrally; the sharp ends of the leaves will almost invariably cut more from one side of the hole than the other.

In the early days train wheels were "rounded-up" after being staked on the pinions. Under these conditions they were frequently, in fact generally, forced into holes considerably smaller than the wheel seat of the pinion. Being rounded up after staking, to stake them central was considered of small importance.

Another source of trouble in staking an old pinion in a new wheel, is that the new wheel is frequently thicker than the old one, and the riveting ends of the leaves do not reach through. To do a secure job of riveting, the points of the leaves *must* come through, and if the shoulder cannot be turned back, or the wheel made of the required thinness

(Continued on Page 40)

Cosley Jewelry Company

301 University Building, Denver, Colo.

Wholesale Dealers of

Jewelry, Tools and Jewelers' Supplies, Findings, Etc.
Seth Thomas Clocks, and Dresser Sets
Conklin Pens

Swiss Watches—Genuine Watch Materials for American and Swiss Watches

DO YOU KNOW?

Directed by
W. H. SAMELIUS, Chairman
Science of Horology and Technical Advisory Board

The great clock at the House of Parliament, London, is controlled by a three-way gravity escapement, invented 1854 by E. B. Dennison, Esq.

A clergyman of the Church of England invented the rack repeating striking works for clocks. He also patented the repeating mechanism for watches. He was born 1636 and died 1716. His name was Edward Barlowe.

Circular Error: The difference in time arising from the swinging of a pendulum in a circular arc instead of its true theoretical path which is a cycloidal arc. This caused much trouble in the early clocks. The suspension of the pendulum by a flat spring instead of a cord was attributed to Dr. Hooke and served to make the path practically cycloidal.

The first great contribution to American watch manufacturing was the establishment of the principal of interchangeability and the second contribution, automatic machinery for reproducing small watch parts.

Independent Seconds: A watch whose second hand is driven by an independent train.

Jason R. Hopkins of Washington, D. C., perfected a model for a watch that he estimated could be produced for 50c each. He secured a patent for this model in 1875. After considerable negotiations he interested W. B. Fowle of Auburndale, Mass. This led to the Auburndale Watch Co. However, before many years, some $250,000 was lost in the enterprise and an assignment was made in 1883. The watch did not prove to be a success.

When a seconds-pendulum rod has 18 threads per inch for the regulating nut, one turn of the nut will affect the time one minute in 24 hours. Thus, if a regulator nut is calibrated to sixty degrees it will be an easy matter to regulate the clock to seconds.

It is said in France conductors give passengers a written excuse when the trains are late.

The earliest church clocks originally had no dials. The time was announced by striking the hour on a bell.

In some watchmakers schools in Switzerland the student must remove his shoes and wear slippers in the classroom to prevent vibration to the delicate machinery and instruments.

According to the present theory, the Pyramids of Egypt were the original sun dials.

A new clock, with the dial like the face of a person announces the time in a natural voice. (In case the clock has larynx trouble, shall we seek a throat specialist watchmaker?)

Adjustment to Position: The manipulation of the balance and hairspring so that the watch keeps the same time in different positions. Good grade watches are usually adjusted to five positions. They are: Dial-up, dial-down, pendant-up, Pendant-right and pendant-left.

The only way to keep happiness is to give it. We save it when we scatter it everywhere.

Staking Train Pinions

(Continued from Page 38)

all over, then the wheel must be reduced in thickness immediately around the pinion; this may be on top or bottom, as the position of the wheel, relative to the other wheels, or other parts of the watch may determine.

Such reduction of the wheel in thickness, immediately around the pinion, may be very neatly done by means of a large size disk countersink, of the kind shown in Fig. 1.

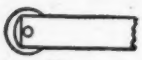

Fig. 1

For the workman who does but a limited amount of pinion work, we advise filling in between the leaves with lathe cement; it will save him many a bent or broken leaf, besides it makes them much easier to turn smoothly. For work on pinions you *must* have a sharp graver, and it must be *kept* sharp.

In many cases some of the leaves are broken away at the part where they should be riveted. Sometimes we can get over this difficulty very neatly by turning the old wheel seat entirely away, hubbing the wheel, and staking it on American style.

Increasing thinness of watches, among other reasons, seems to be bringing the American manufacturer around to the Swiss style of inserting pinions. The same precautions must be observed in fitting as with Swiss pinions.

Fitting a pinion, Swiss style, is a job which frequently comes to the watchmaker, and a few words on the points which usually give trouble may be welcome to some of our readers.

We will assume that we are to use pinions of fine quality and temper known as Jurgensen pinions. They come with the leaves finely finished, but not on the ends; they are of a good spring temper, and we must keep our gravers *sharp*. After filling in between the leaves with cement, as recommended — and right here is a point worth mentioning; we should not hold the pinion directly in the flame to heat it, but should fasten it in a light pin vise, and hold this in the flame, allowing the pinion to be heated by conduction—the cement does not fill in up to the full circle of the pinion, but will be festooned, as we might say, from leaf to leaf, as shown in Fig. 2; should any chance to rise above the leaf to interfere with the contact of the leaf with the chuck, it should be removed with a brass scraper.

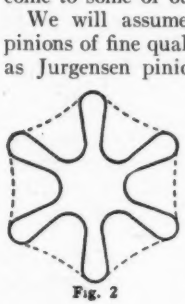

Fig. 2

The pinion should be held in a chuck fitting it perfectly, and running true. The first operation is to turn the seat for the wheel. And before putting the pinion in the chuck, we should observe *about* where this should come; being sure we do not remove so much of the leaves in fitting our wheel that there will be insufficient length of leaf to finish our pinion.

Having settled this point, with a *sharp* lozenge graver, we cut a notch in the pinion, as shown in Fig. 3, where *a*

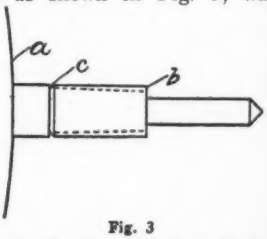

Fig. 3

represents the face of the chuck; this notch is the beginning of the shoulder on which the wheel is to rest. We then turn the leaves away from toward *b*, slightly taper as shown in dotted lines, until the wheel can be pressed on up to within its thickness of the shoulder. This method makes it extremely easy to get a perfect fit for the wheel, if we use any care at all.

Of course it is understood that the wheel is first trued out in the hole; this is done before chucking the pinion. We must take care to see how much the hole will bear enlarging, and still afford a sufficient shoulder on the pinion.

We then measure the thickness of the

wheel, and measure back from the shoulder, making sufficient allowance for riveting. This will vary with different cases, but generally .3 mm. will be sufficent. After this is determined, our method is to measure up from the wheel seat to locate the shoulder of the pivot, turn and finish the pivot, and reduce the staff to approximately the required size, down to the end, *b*, of the leaves. Our reason for doing this is because the pinion is more rigid, and more easily withstands the stress of turning *before* the leaves are turned off down to the riveting point, than afterward.

We now turn away the leaves down to the riveting point, and with a very sharp graver, reduce the staff to the

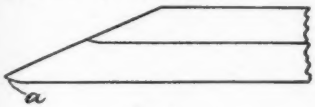

Fig. 4

size required, plus sufficient to grind and polish. We will now form the under cut—this is a trick that frequently gives the beginner trouble; we'll proceed with care—for this we need a very sharp lozenge graver; and it is of advantage to bevel the edge up as shown in Fig. 4, this greatly strengthens the point, besides making the graver more likely to do smooth work, in this particular spot, for reasons which we will explain later. We must not try to jab the graver right in, making it cut on the point and both sides all at once; such procedure brings a great strain on the graver, and is pretty certain to break it. We will, as far as possible, cut one side of the undercut at a time, taking off a light chip first on one side then on the other, gradually deepening it, until it is to the required depth and shape, when a final light shaving from each side, with a very sharp graver, the two cuts meeting at the bottom in an angle so perfect and sharp that it can hardly be detected, completes it.

The philosophy of rounding the bottom of the graver for this work, is, besides strengthening the point and edge, it gives a plane-like quality, as we might call it.

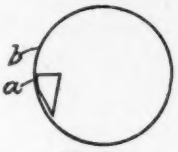

Fig. 5

Fig. 5 will illustrate this. It will be seen that the rounding, *a*, of the edge may allow the graver to slide along the circle, *b*, without cutting at all, or by tipping the graver slightly, or raising it above the center, it may take a very thin chip, with no possibility of digging in. The rounding must be only slight, and is exaggerated in Fig. 5, for the sake of clearness. After we have the undercut to our satisfaction, we finish the staff, and remove the pinion from the chuck.

From this point to the finished pinion, the procedure would vary with different cases; but ordinarily we would reverse the pinion in the chuck, turn the pivot and staff, square off the leaves, turn the undercut, remove the pinion from the chuck, rivet the wheel in place, then return the pinion to the lathe—first removing the cement from between the leaves—holding it by the staff part, and finish the lower pivot staff, and face the leaves.

It will be seen that in these operations which we perform after riveting the wheel, the pressure is slight, and the pinion may be safely held by the staff part.

Facing pinions with the pivot polisher is very easy if we go at it right. We first grind the face with a cast iron, or soft steel lap—we prefer cast iron—using very fine oilstone powder, then thoroughly clean the job with benzine and watchmakers' putty, (see article on Polishing). We then take a tin lap freshly filed with a fine flat file, and applying a very thin coating to the face of the lap with our steel spatula, we bring the lap *gently* against the end of the leaves, running the lathe at moderate speed—don't overdo it; it is amazing how quickly a beautiful flat black polish is produced, after we have acquired the "knack". *Perfect* facing can be done in

this way, so don't give up with anything short of that. The same precautions in the matter of adjusting the lap, belts, etc., must be observed, as in the case of polishing an arbor bearing or pivot, described in the article Bushing.

Our method of measuring, which we devised many years ago, and have published several times, is not generally known and practiced even now. The ordinary method would be to measure from the shoulder of the first completed pivot, up to the point where the other pivot shoulder, and mark or scratch this location on the pinion.

Our method is: suppose the length of the finished pinion between pivot shoulders is 8.3 mm., suppose the new pinion measures from the shoulder of the first pivot made up to the unfinished end, 10 mm.; we then subtract the finished length, from the unfinished and obtain 1.7 mm.; now when the job is grasped in the chuck, we measure down from the unfinished end to locate the shoulder of our pivot. This method is much more certain and accurate, than trying to work to a scratch or other mark. Of course we must not shorten the unfinished end of the pinion any until the shoulder of the pivot is accurately located and the notch cut, then the end of the pinion may be cut off leaving sufficient stock to form the pivot. Study the pinion work in such watches as Patek Philippe, or high grade English watches, and try to do as well, or better.

Staking Safety Pinion Staffs

Sometimes these staffs slip slightly in the center wheel, causing apparently erratic running of the watch. The pressure which they have to sustain is considerable under ordinary circumstances; and when a mainspring breaks, and the safety pinion sticks—as it frequently does—the staff is very likely to turn in the wheel.

An effective means of making them secure, is to indent the riveting with the special punches, now furnished with nearly all staking tools, for this purpose. The staff should first be properly riveted in the center wheel, by means of smooth punches, just as we would a balance staff. Then with the indenting punch of proper size, we make four indentations by one suitable blow, and the wheel is secure.

Generally it is better to make four indentions than to try to make eight, for in many cases you will not get the second four exactly between the first four or exactly the same depth, and the result will not be pleasing; besides, four, when properly made, gives perfect security.

Speaking of safety pinions sticking; many workmen, in cleaning watches, do not remove the pinion head; the result is, in most cases, it rusts fast to the staff. Safety pinions should not only be *removed* when cleaned, but the staff should be *oiled* when the pinion head is replaced. K. and D.

P. E. Stringer Celebrates

(Continued from Page 23)

The personal life of P. E. Stringer has been just as much of a success as his business career. He was married to Clara Heldt in 1899, and has four children, two boys and two girls. The two boys are in business. Mr. Stringer's favorite hobby is his 170-acre dairy farm, where he likes to relax and recall his early farm days.

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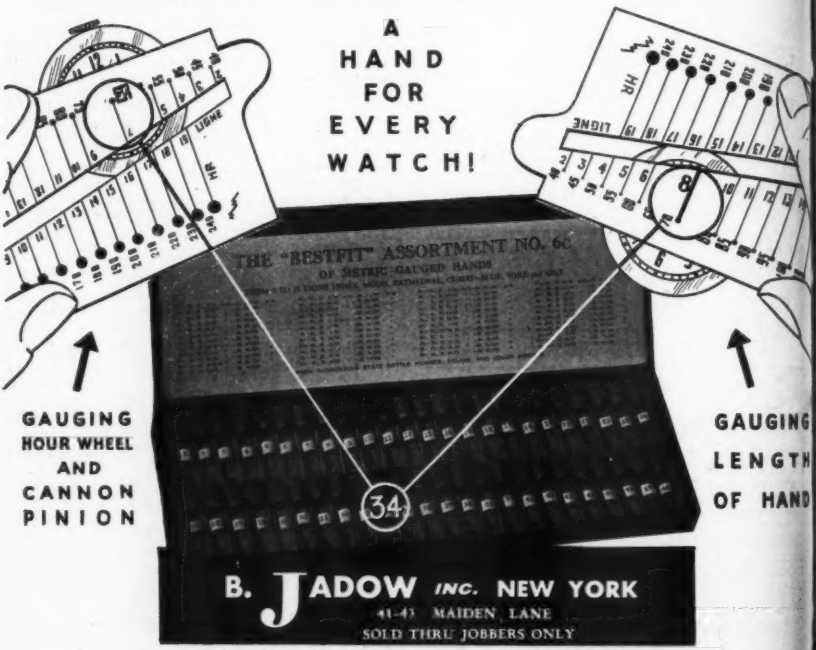
THE "BESTFIT" HAND ASSORTMENT No. 6C CONTAINS A HAND FOR EVERY WATCH FROM 3 TO 10 LIGNE. INCLUDING A.S., BULOVA, GRUEN, LONGINES AND GLYCINE. ONE PAIR EACH BLUE AND GILT INDEX.

EACH HAND IS METRICALLY GAUGED. THEY REQUIRE NO BROACHING. YOU NEED ONLY HAVE A SMALL STOCK OF HANDS TO MEET YOUR REQUIREMENTS

SEE OUR 6C ASSORTMENT! IT COMES TO YOU IN A HANDSOME LEATHERETTE CABINET 10 x 3. HOLDING 8 DOZEN PAIR OF HOUR AND MINUTE HANDS. AND MAY BE HAD IN THE FOLLOWING COMBINATIONS: INDEX. MOON. CATHEDRAL. CUBIST. STICK. BLUE. WINE. GILT AND WHITE.

OUR METRIC GAUGED HANDS ARE COMPLETE IN EVERY WAY, FROM 2 TO 19 LIGNE IN ANY OF THE ABOVE COMBINATIONS. WITH 8 DIFFERENT HOLE SIZES TO EACH LIGNE FROM THE BAGUETTE SIZE TO THE LARGEST POCKET SIZE WATCH.


A HAND FOR EVERY WATCH!
GAUGING HOUR WHEEL AND CANNON PINION
GAUGING LENGTH OF HAND
THE "BESTFIT" ASSORTMENT NO. 6C
OF METRIC GAUGED HANDS
34
B. JADOW INC. NEW YORK
41-43 MAIDEN LANE
SOLD THRU JOBBERS ONLY

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OILS FOR WATCHES . . . CLOCKS . . . CHRONOMETERS
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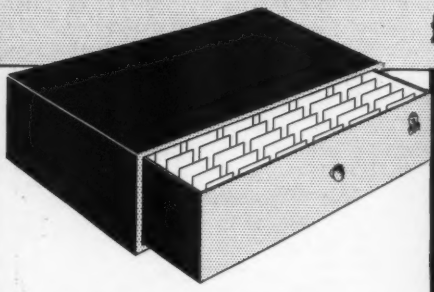
NEW 1938 3-PURPOS
Swiss Mainspring Sal
for Baguette to 12L. Siz



3-DOZEN ASSORTMENT

Regular Standard Models

Thirty-six standard model, Swiss bracelet size Mainsprings for men's and ladies' watches. The most used, staple sizes. Complete in cabinet as illustrated above with empty spaces for future expansion. Charts, guide and index are included.

$2.75

No. **492996.** THREE-DOZEN assortment, as described .....

No. **492996G.** Same as above with $7.50 gauge **$7.75**

6-DOZEN ASSORTMENT

Late Modern Models

Seventy-two Swiss bracelet size Mainsprings for men's and ladies' wrist watches. Including springs for popular present day models of Bulova, Gruen, Central-Benrus, Tavannes, etc., many of which require the new, wider, weaker and longer mainsprings. Complete in cabinet as illustrated above. Charts, guide and index are included.

$4.65

No. **492995.** SIX-DOZEN assortment, as described .....

No. **492995G.** Same as above with $7.50 gauge **$9.65**

9-DOZEN ASSORTMENT

Combination Offer

The two assortments described above are combined into one unit and packed in a TWO-DRAWER CABINET. This assortment contains no duplicate mainsprings—each is for a different model.

$6.98

No. **492995-6.** NINE-DOZEN assortment, as described.....

No. **492995-6G.** Same as above with $7.50 gauge..... **$11.98**

SWARTCHILD & CO.

World's Largest Watchmakers' and Jewelers' Supply House

NEW YORK CHICAGO DALLAS
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FEATURES

Our 1938 Swiss Mainspring Assortments ... been created to enable the watchmaker to ... plenish his Swiss Mainspring stock in an ... and intelligent manner.

QUALITY All mainsprings are nicely ... properly tempered, reverse style and have riveted ... ends. Each is moisture-proof wrapped. Notwithstanding the low price they are in keeping with Swartchild's standard of merchandising.

VARIETY We guarantee each assortment to contain the best and most used baguette to 12 Ligne ... No duplicates are included.

LOW PRICE Our huge quantity purchases ... the price down to a minimum—about 7½c each ... 3-dozen assortment and less than 6½c each in the ... assortments.

FREE CABINETS There is no extra ... for the well made durable cabinets which are ... with a rich red, waterproofed leatherette. Each ... has 72 numbered partitions. One-drawer cabinet ... ures 11¾x7x3¼ inches; two-drawer, 11¾x7x7 inches.

SYSTEM Mainsprings can be selected by ... uring old sample and then checking the chart for ... responding measurements or by using the standard Swartchild Swiss Series System. Each mainspring is ... in a numbered envelope and arranged according ... width and strength rotation.

CHARTS One chart shows space numbers ... nison and Metric width and strength and inch ... the other is a comparative chart providing SERIES NUMBERS for standard ISWISS, GRUEN and BULOVA models which can be served from the assortment. ... than 1900 known Swiss makes (243 Series) are provided for in the 9-dozen assortment.

SERIES INDEX AND GUIDE A 28-... book is included with all assortments. All series ... are illustrated and a complete list of known Swiss ... are indexed.

OUR $7.50 GAUGE FOR $5 For a limited time watchmakers may obtain our ... sive MICROMETER GAUGE regularly priced at ... of a $2.50 saving when purchased in conjunction ... any of our three 1938 Swiss Mainspring assortments. ... gauge is a precision tool, accurate to 1/100 m... tures the adjustable, removable table and is indispensable for gauging mainsprings as well as staffs, ... jewels, etc.

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